JOURNAL OF METALS

Index to Volume 15 January-December 1963

Feature Articles

I. Subjects

A

Aerospace:
cobalt-base alloys for space power systems Dec 928
liquid metals for space power systems Sept 637
nonferrous metals symposium Sept 635
powder metallurgy applications May 349
superalloys for Sept 645
vanadium alloys in Sept 642
Africa:
iron ore developments May 377
World Bank loans July 488
AIME Annual Meeting:
plant trips Feb 112
program Jan 65
review June 450
Alkali Metals:
for space power systems Sept 637
Aluminum:
for aerospace applications Sept 635
alloys with beryllium Sept 606
effect of European Common Market on July 485
effect on maraging steels Mar 200
high strength alloys Mar 216
ore resources in US July 466
for supersonic aircraft Mar 190
Annealing:
continuous May 359
Arc Furnaces:
see Electric Furnaces
Argon:
use in degassing steel Mar 205
Ausforming Process:
incandescent mill application Nov 842
Austenite:
thermomechanical treatment Oct 755
Austria:
continuous casting of steel slabs at Kapfenberg Nov 835

B

Bar:
surface removal, high-speed May 364
Basic Oxygen Steelmaking:
at Cleveland Aug 572
compared to open-hearth Aug 585
economics of processes compared Aug 585
at Great Lakes Steel Corp. Aug 563
growth and development of Aug 581
gunning maintenance of furnaces Aug 574
of high-carbon steels at Pueblo Aug 570
use of hot-blast cupolas at Acme Aug 567
Kaldo process at Sharon Steel Apr 285
LD and LDAC at Ebbw Vale, So. Wales Aug 577
powdered-lime injection Aug 577
Basic Refractories:
gunning of Aug 574
Beryllium:
as an additive to light-metal alloys Sept 606
for aerospace Sept 635
crystallographic analysis Nov 843
fabrication methods evaluated Nov 843
powder, in aerospace applications May 349
structural applications of Nov 843
ultrahigh strength alloys Feb 136
Bismuth:
for space power systems Sept 637
Blast Furnace:
compared to direct reduction Oct 781
compared to electric furnace Sept 619
Dorothy at Duquesne Works Sept 632
improved control by temperature and slag analysis July 512
low slag volume practice Apr 288
practice in the Ukraine Jan 29
smelting prereduced pellets Apr 298
symposium at Pittsburgh Sept 632
three-bell top in the USSR Oct 733
use of ore-coke pellets Apr 294
Blast Furnace Injection:
of natural gas at Monclova, Mexico June 433
of oxygen July 506
of solid fuel at Weirton July 499
Blast Furnace, Lead:
continuous tapping of Nov 827
Boron:
for space power systems Sept 637
effect on maraging steels Mar 200
Brazil:
tin smelting Feb 153
Burma:
UN mining and metallurgy survey July 493

C

Cadmium:
smelting in Mexico June 446
California:
University of, metallurgy curriculum Jan 20
Canada:
continuous casting for Quebec June 402
description of Stelco's Hamilton works Apr 265
Casting, Steel:
see also Continuous Casting, Steel
Controlled Pressure Pouring at Eastern Stainless Nov 814
Controlled Pressure Pouring at Griffin Wheel Dec 898
Controlled Pressure Pouring at Washington Steel Dec 900
vacuum, Gero process May 370
vacuum-induction Mar 210
Cerium:
use in autoradiography Dec 914
Cesium:
for space power systems Sept 637
Chance Vought Corp.:
Grand Prairie, Texas, facilities Feb 113
Chromium:
in high-temperature service Feb 127
superalloys for aerospace Sept 645
Coal:
injection into BF at Weirton July 499
resources in US July 466
Cobalt:
alloys for space power systems Dec 928
effect on maraging steels Mar 200
superalloys for aerospace Sept 645
Coke:
for iron-ore pellets Apr 294
Columbia University:
Henry Krumb School of Mines Feb 147
Columbium:
in vanadium alloys Sept 642
Continuous Casting, Copper:
of wire rod Oct 774
Continuous Casting, Steel:
curved mold machine Aug 550
of killed, rimming, and stainless steel slabs Nov 835
plant for Quebec June 402
of steel slabs in plate-type mold Nov 835
plant for Venezuela Aug 551
Continuous Steelmaking:
advantages of Sept 633
Copper:
for aerospace applications Sept 636
continuous casting of wire rod Oct 774
effect of European Common Market on July 483
ore resources in the US July 466
Crystal Lattice Defects:
international conference on Feb 157
Cupolas, Hot Blast:
in basic-oxygen steelmaking Aug 567
melting tests, RN iron Mar 198

D

Degassing:
argon, of steel Mar 205
vacuum, DH process Mar 214
vacuum, in ladle Mar 214
vacuum, Ruhrstahl-Heraeus process Mar 215
Deoxidation:
in electric induction furnace practice Dec 918
of steel with argon Mar 205
Diffusion:
review of 1962 literature Nov 855
Dip-Forming:
a continuous casting process for copper rod Oct 774
Direct Reduction:
see also Sponge Iron possibilities in Latin America Oct 783
Dispersion Hardening:
of alloys by electrodeposition Oct 740
Dresser Industries:
Security Engineering div., Dallas, description of facilities Feb 115

E

Economics:
of European Coal and Steel Community Nov 818
European Common Market July 481
European Common Market and nonferrous metals July 483
Latin American integration June 443
of steel plant construction July 497
of steel plant location July 496
UN conference on the application of science and technology for the benefit of less-developed nations July 495
UN Special Fund role in mining and metallurgy July 492
US steel industry outlook Apr 302
World Bank in mineral development July 486
Education:
current and proposed five-year curricula Dec 935
engineering, the great implosion Jan 38
metallurgical, conference on Jan 15
metallurgical, maintaining skills Jan 25
metallurgical, program for Jan 22
metallurgy, at Columbia U. Feb 147
mining and metallurgical, history of in the New World Jan 37
of the steel metallurgist Aug 560
U. of Calif.'s metallurgy curriculum Jan 20
Electric Arc Furnace Steelmaking:
continuous temperature measurement Dec 902
gunning maintenance of Aug 574

melting sponge in Mexico ... June 439
new shop of Simonds Saw and Steel Co. ... May 368
1963 conference plant trips ... Dec 898
1962 conference review ... Mar 197

Electric Furnace Ironmaking:
compared to blast furnace ... Sept 619
economic considerations ... Sept 619
by Strategic-Udy in Venezuela ... Sept 630
Tysland-Hole in Venezuela ... Sept 628
in Venezuela ... Sept 627

Electric Induction Furnace Steelmaking:
at Carpenter Steel Co. ... Dec 878
deoxidation techniques with vacuum practice ... Dec 918

Electron-Beam:
floating zone melting ... Mar 210
high-power furnaces ... Mar 211
welding ... Mar 212
fifth annual symposium ... Sept 655

Electron-Probe Microanalyzer:
description of NBS instrument ... Oct 763
for metallurgical use ... Oct 763
scanning type in industrial research ... Oct 769

Electrothermal Process:
for recovery of zinc ... Nov 830

European Common Market:
impact on nonferrous metals ... July 483
structure and operation ... July 481

European Coal and Steel Community:
investment in ... Nov 818

Extractive Metallurgy Div. Lecture:
summary ... June 451

Extrusion:
mechanical, of steel ... May 361

F

Fall Meeting:
1962 pictures ... Feb 133
1963 pictures ... Dec 942

Fiber:
reinforced metals and alloys ... May 358

Fracture:
in crystalline solids, conference review ... Jan 43
toughness, of superalloys ... Mar 195
toughness, of titanium alloys ... Mar 192

Fuel-Oxygen-Scrap Process:
for melting scrap ... Nov 818

Fuels:
resources in US ... July 466

G

Germany:
recovery of zinc at Duisberger Kupferhuette ... Nov 830

Grain Refinement:
of steel ... May 372

Guayana Region:
development of ... Oct 781

Gunning of Basic Refractories:
maintenance on open-hearth, basic oxygen, and electric furnaces ... Aug 574
materials, equipment, techniques Aug 574

H

History:
of iron and steel in Colonial Spanish America ... June 412
of the steel metallurgist ... Aug 560

Howe Memorial Lecture:
summary ... June 450

Hydrogen:
in steel, removal with argon ... Mar 205

Hydrometallurgy:
rhenium recovery by solvent extraction and electrodeposition Sept 648

I

Imperfections:
lattice, conference review ... Feb 157

Institute of Metals Lecture:
summary ... June 451

Ironmaking:
see also Blast Furnace, Electric Furnace Ironmaking, and Sponge Iron
blast furnace symposium review Sept 632
in colonial New Jersey ... Feb 158
in colonial Spanish America ... June 412
conference review ... July 506
cupolas (hot-blast) at Acme Steel Aug 567
cupolas for melting RN iron ... Mar 198
direct reduction process in Latin America ... Oct 783
electric furnace as competitor to the blast furnace ... Sept 619
at Monclova, Mexico ... June 433
ore-coke pellets ... Apr 294
smelting prereduced pellets ... Apr 298

Iron Ore:
developments in Africa ... May 377
for metallized pellets ... Apr 294
resources in US ... July 466
state of the industry, 1962 ... Feb 116

Iron, Sponge:
see Sponge Iron

J

Japan:
lattice defects conference ... Feb 157

L

Latin America:
colonial iron and steel making ... June 412
economic integration ... June 443
Third Congreso Latinoamericano de Siderurgia of ILAFA ... Oct 781

Latin American Steel Industry:
economics of ... Oct 781

Lead:
for aerospace applications ... Sept 636
continuously tapped blast furnaces ... Nov 827
effect of European Common Market on ... July 484
metallurgical survey in Burma ... July 493
ore resources in the US ... July 466

Liquid Metals:
applied to space power systems ... Sept 637

Lithium:
for space power systems ... Sept 637

M

Magnesium:
for aerospace applications ... Sept 635
alloys with beryllium ... Sept 606
ultrahigh strength alloys ... Feb 136

Manganese:
effect on maraging steels ... Mar 200
ore resources in the U.S. ... July 466

Martensite:
thermomechanical treatment of ... Oct 753

Materials Science:
metallurgical education ... Jan 15

Mechanical Working Conference:
1963 review ... May 359

Melting:
floating zone, electron beam ... Mar 210
vacuum-induction ... Mar 210

Metallography:
radioisotopes in ... Dec 914

Metallurgist:
history and future of ... Aug 560

Metallurgy:
high pressure and high temperature ... June 452

Metalworking:
effect of hot working on directional properties of steel ... May 360
mechanical conference review ... May 359
mechanical extrusion of steel ... May 361
surface removal, high-speed ... May 364
tests for hot workability ... May 361

Mexico:
cadmium production ... June 446
iron and steelmaking at Fundidora ... June 429
iron and steelmaking at Hojalata y Lamina ... June 437
iron and steelmaking at Monclova ... June 433
survey of steel industry ... June 421

Microanalysis:
with electron-probe ... Oct 763
of inclusions ... Oct 773
of multiphase structures ... Oct 773
principles of ... Oct 763
by scanning electron-probe in metals industry ... Oct 769

Molds:
plate-type for continuous casting Nov 835

Molybdenum:
effect on maraging steels ... Mar 200
powder, in aerospace applications May 350

N

New Jersey:
colonial ironmaking ... Feb 158

Nickel:
effect on maraging steels ... Mar 200
electrodeposited dispersion-hardened alloys ... Oct 740
superalloys for aerospace ... Sept 645

Nitrogen:
in steel, removal with argon ... Mar 205

O

Open-Hearth Furnace:
acid research, survey ... July 511
continuous temperature measurement ... Dec 902
gunning maintenance of ... Aug 574
HyL sponge melted by ... Oct 781
oxygen lancing at Monclova, Mexico ... June 435
thermochemistry of oxygen lancing ... Apr 304

Oxidation-Resistant Coatings:
for superalloys ... Sept 645
for tungsten ... Oct 787

Oxygen:
blast furnace injection of ... July 506
thermochemistry in open hearth ... Apr 304

P

Pellets:
from ore-coke mixtures ... Apr 294
prereduced, smelting of ... Apr 298

Platinum Group Metals:
coating for tungsten ... Oct 787

Potassium:
for space power systems ... Sept 637

Pouring:
see Casting

Powder Metallurgy:
in aerospace applications ... May 349
consolidation processes ... May 352
effects of pressing on powders ... Nov 849
hot rolling of powders ... Nov 840
industry review for 1962 ... May 338
research and development
by the Army ... May 350
by the Navy ... May 350
by the Air Force ... May 351
special structures ... May 357
thermal treatments ... May 355

Power Systems, Space:
cobalt alloys for ... Dec 928
liquid metals used ... Sept 637

Precious Metals:
for aerospace applications ... Sept 636

R

Radiotracer Techniques:
autoradiography and radiometric analysis compared ... Dec 914

Recrystallization:
of decarburized steels ... May 359

Resources:
natural, development of ... July 496
natural in US until 2000 ... July 466

Rhenium:
recovery, uses, and properties ... Sept 648

Rocket:
titanium motor cases ... Feb 141

Rod:
surface removal, high-speed ... May 364

Rolling, Hot:
of Ausformed steel ... Nov 840
incandescent mill for ... Nov 840
of metal powders ... Nov 840
of thin strip or sheet ... Nov 840

S

Sampling:
of steel scrap ... Dec 912

Satellites:
metallurgical evaluation of Sputnik ... Jan 32

Scrap:
melting of by FOS process ... Nov 818
steel, sampling of ... Dec 912

Segregation:
in steel ingots ... Apr 311

Silicide:
coating for tungsten ... Oct 787

Silicon:
effect on maraging steels ... Mar 200
history, uses, and prospects ... July 502

Slag:
analysis, to improve BF control July 512
low volume, BF practice ... Apr 288

Sodium:
for aerospace power systems ... Sept 637

Solidification:
grain refinement of steel ... May 372
of steel, current theory framed against practical limitations ... Apr 311

Sponge Iron:
production at Hojalata y Lamina June 437
use of HyL in open hearth ... Oct 781
uses of RN iron ... Mar 198

Steel:
see also Casting, Steel; Continuous Casting, Steel
aluminum killed, panel discussion on production of ... July 509
argon degassing of ... Mar 205
economic outlook ... Apr 302
grain refinement of ... May 372
solidification of, theory ... Apr 311
for supersonic aircraft ... Mar 194
thermomechanical treatment of ... Oct 755

Steelmaking:
see also Basic Oxygen Steelmaking; Electric Arc Furnace Steelmaking; Electric Induction Furnace Steelmaking; Open Hearth Furnace
aluminum-killed steel production July 509
in colonial Spanish America ... June 412
comparison of processes, UN reports on ... July 468
comparison of processes ... Aug 585
continuous ... Sept 651
Fuel-Oxygen-Scrap process ... Nov 818
growth of LD ... Aug 581
NOHC conference review ... July 506
sampling of scrap for ... Dec 912
survey of Mexican industry ... June 421
in the Ukraine ... Jan 29
in the USSR ... Jan 31
use of RN iron ... Mar 198

Steel, Maraging:
effects of residual elements ... Mar 200
properties evaluated ... Dec 907
strength properties of ... Mar 199

Steel Plant:
Altos Hornos at Monclova, Mexico June 433
choice of plant location July 496
CF&I BOF plant Aug 570
economics of plant construction July 497
electric arc furnace shop at Simonds Saw & Steel Co. May 368
Fundidora de Monterrey, Mexico June 429
Great Lakes' BOF plant Aug 563
Griffin Wheel Co., Bensenville plant Dec 898
Hojalata y Lamina, Mexico June 437
J&L's BOF plant, Cleveland Aug 572
LD and LDAC at Ebbw Vale Aug 577
Lone Star Steel Co. Feb 114
Republic Steel Corp., So. Chicago Dec 899
Sharon Steel's Kaldo plant Apr 285
Steico's Hamilton works Apr 265
Steel, Stainless:
precipitation hardenable, aging reactions in Dec 922
Structural Materials:
ultrahigh strength Feb 134
Sulfur:
effect on maraging steels Mar 200
Superalloys:
for aerospace application Sept 645
for supersonic aircraft Mar 195
Supersonic Transport:
aluminum in Mar 190
materials for Mar 185
steel in Mar 194
superalloys in Mar 195
titanium in Mar 192

T

Taconite:
pellets, smelting of Apr 298
Tantalum:
powder, in aerospace applications May 350
Texas Instruments Inc.:
Dallas facilities Feb 112
Thermocouple:
for continuous measurement of molten steel temperature Dec 902
Tin:
smelting in Brazil Feb 153
Titanium:
effect on maraging steels Mar 200
for supersonic aircraft Mar 192
ultrahigh strength alloys Feb 141
Tungsten:
in cobalt-base alloys Dec 928
powder, in aerospace applications May 349
protective coatings for Oct 787

U

USSR:
steelmaking in 1962 Jan 31
steelmaking in the Ukraine Jan 29
three-bell blast furnace Oct 733
United Kingdom:
LD and LDAC steelmaking at Ebbw Vale Aug 577
Continuous temperature measurement at Steel Peech and Tozer Dec 902
Fuel Oxygen Scrap process of BISRA Nov 818
United Nations:
conference on the application of science and technology for the benefit of less-developed nations July 495
role of Special Fund in mining and metallurgy July 492
survey of steelmaking processes July 468

V

Vacuum Casting:
see casting
Vacuum Degassing:
see Degassing
Vacuum Induction Melting:
see Electric Induction Furnace
Vacuum Metallurgy:
conference report Mar 210
Vanadium Alloys:
applied to aerospace Sept 642
Venezuela:
continuous casting for Sivensa plant Aug 551
electric furnace ironmaking Sept 628
industrial development of Guayana region Oct 781
Orinoco iron and steel plant Sept 627
sponge melting tests in open hearth Oct 784
Third Congreso Latinoamericano de Siderurgia of ILAFA Oct 781

W

Welding:
electron-beam Mar 212
of superalloys Mar 195
Wire:
surface removal, high-speed May 364
Workability:
hot, tests for May 361
World Bank:
mineral development July 486

Z

Zinc:
for aerospace Sept 636
effect of European Common Market on July 484
electrothermal recovery of Nov 830
metallurgical survey in Burma July 493
ore resources in the US July 466
Zirconium:
effect on maraging steels Mar 200

II. Titles

A

Acid Open-Hearth Research July 511
Aging Reactions in Precipitation Hardenable Stainless Steel Dec 922
AIME Annual Meeting Plant Trips Feb 112
AIME's 92nd Annual Meeting June 450
Aluminum for a Supersonic Transport Mar 190
Application of Technology for the Benefit of Less-Developed Countries July 495
Argon Degassing of Steel Mar 205
Around the World for 800 Days Jan 32

B

Basic Oxygen Operations at Great Lakes Aug 563
Basic Oxygen Progress at Cleveland Aug 572
Beryllium as a Structural Material Nov 843
Beryllium - Light-Metal Alloys Sept 606
Blast Furnace Practice with Very Low Slag Volume Apr 288
Blast Furnace Symposium Sept 632
Buffalo to Iron and Steel Metallurgists July 506

C

Cadmium Production in Mexico June 446
California's Changing Metallurgy Curriculum Jan 20
Case for Chromium Feb 127
Cast Maraging Steel Evaluated Dec 907
Cincinnati and the Electric Furnace Conference Mar 197
Cobalt-Base Alloys for Space-Power Systems Dec 928
Colonial New Jersey's Bog Iron Feb 158
Columbia University's Henry Krumb School of Mines Feb 147
Comparison of Steelmaking Processes July 468
Conference on Metallurgical Education Jan 15
Continuous Casting Steel Slabs Nov 835
Continuous Slab Casting Plant for Quebec June 402
Continuous Steelmaking Sept 651
Continuous Temperature Measurement of Molten Steel Dec 902
Controlled Pressure Pouring at Washington Steel Corp. Dec 900
Cupola - Oxygen Steelmaking at Acme Steel Aug 567

D

Deoxidation Techniques for Vacuum-Induction Melting Dec 918
Diffusion Today Nov 855
Dip-Forming—A Continuous Casting Process Oct 774

E

Economic Outlook for Steel Apr 302
Education for Future Engineering Dec 935
Effects of Pressing on Metal Powders Nov 849
Electric Furnace Conference Plant Trips
Griffin Wheel Co. Dec 898
Republic Steel Corp. Dec 899
Electric Furnace Ironmaking in Venezuela Sept 627
Electric Ironmaking Furnaces Sept 619
Electrodeposited Dispersion-Hardened Alloys Oct 740
Electron Beam Symposium in its Fifth Year Sept 654
Electrothermal Recovery of Zinc at Duisburger Kupferhuette Nov 830
European Common Market July 481

F

Fifth Mechanical Working Conference May 359
Fifth Vacuum Metallurgy Conference Mar 210
Fracture in Crystalline Solids Jan 43

G

Grain Refinement of Steels May 372
Great Engineering Implosion Jan 38
Griffin Wheel Co. Plant Trip Dec 898
Gunning of Basic Refractories Improves Furnace Life Aug 574

H

High-Carbon Steels from Pueblo's Basic Oxygen Plant Aug 570
High-Speed Surface Removal from Bar, Rod, and Wire May 364
High-Strength Aluminum Alloys Mar 216

I

Impact of the European Common Market on Nonferrous Metals July 483
Incandescent Rolling Mill Nov 840
International Conference on Crystal Lattice Defects Feb 157
Investment in European Coal and Steel Community Nov 818
Iron and Steel in Colonial Spanish America June 412
Iron and Steelmaking at Monclova June 433
Iron Ore 1962 Feb 116
Iron Ore Developments Surge in West Africa May 377

K

Kaldo Operations in North America Apr 285

L

Largest Vacuum Induction Furnace on Stream Dec 878
LD and LDAC Operating Experience in Britain Aug 577
LD Basic Oxygen Steelmaking—Its Growth and Development Aug 581
Lead Blast Furnaces Continuously Tapped Nov 827
Liquid Metals for Aerospace Electric-Power Systems Sept 637

M

Maintaining the Skills of Practicing Metallurgical Engineers Jan 25
Materials for a Supersonic Transport Mar 185
Metal Temperature and Slag Analysis Improve Blast-Furnace Control July 512
Metallized Pellets From Ore-Coke Mixtures Apr 294
Metallurgical Microanalysis with the Electron Probe Oct 763
Minerals & Metals Through International Cooperation July 492
Mining and Metallurgical Education in the New World Jan 37

N

New Electric Melt Shop Features Materials Handling—Vacuum Casting May 368
New Semi-Horizontal Continuous Casting Unit Aug 550
Nonferrous Metals in Aerospace Sept 635

O

Oxygen Lances and the Thermochemistry of the Open Hearth Apr 304

P

Pittsburgh Section's 17th Annual ORM Jan 6
Powder Consolidation Processes May 352
Powder Metallurgy—1962 May 338
Powder Metallurgy in Aerospace Applications May 349
Powder Metallurgy in the Space Age May 352
Pressure Pouring Steel Shapes Now on Stream Nov 814
Program for Metallurgical Engineering Education Jan 22
Protective Coatings for Tungsten Oct 787

R

Radioisotopes as Aids to Metallography Dec 914
Recent Progress in Titanium Feb 141
Report Forecasts Supply and Demand for America's Resources to 2000 July 466
Republic Steel Corp. Plant Trip Dec 899
Residual Elements in Maraging Steels Mar 200
Rhenium Recovery by Solvent Extraction and Electrodeposition Sept 648

S

Sampling of Steel Turnings and Borings Dec 912
Scanning Electron-Probe Microanalysis in the Metals Industry Oct 769
Scrap Melting by Fuel-Oxygen-Scrap Process Nov 818
Second Most Abundant Element in Earth's Crust July 502
Senior Class Jan 48
Smelting Prereduced Iron Ore Pellets Apr 298
Solid Fuel Injection at Weirton July 499
Solidification of Steel Apr 311
Soviet Steel—1962 Jan 31
Soviet Three-Bell Blast Furnace—A Success? Oct 733
Special Structures by Powder Metallurgy May 352
Sponge Iron for the Electric Furnace June 437
Steel for a Supersonic Transport Mar 194
Steel for Mexico's Economic Development June 421
Steel from Fundidora June 429
Steel Metallurgist—His Heritage and Future Aug 560
Steelmaking Heat Potentialities Point Toward Continuous Processing Aug 585
Steelmaking in The Ukraine Jan 29
Strategic-Udy Installation in Venezuela Sept 630
Structure and Operation of European Common Market July 481
Superalloys for a Supersonic Transport Mar 195
Superalloys for Aerospace Application Sept 645

T

Tests for Hot Workability May 361
Thermal Treatment of Powders May 352
Thermomechanical Treatment of Steel Oct 755
Tin Smelting in Brazil Feb 152
Titanium for a Supersonic Transport Mar 192
Trend Toward Latin American Ecomonic Integration June 443
Tysland-Hole Furnaces Sept 628

U

Ultrahigh Strength Magnesium and Beryllium Alloys Feb 136
Ultrahigh Strength Structural Materials Feb 134

V

Vanadium Alloys in Aerospace Sept 642
Venezuela and the Latin American Iron and Steel Congreso Oct 781
Visit to Canada's Largest Basic Steel Plant Apr 265

W

World Bank and World Mineral Development July 486

III. Authors and Companies

A

Acme Steel Co.: *Cupola—Oxygen Steelmaking at Acme Steel* Aug 567
Alexandrovsky, George B.: *Steelmaking Heat Potentialities Point Toward Continuous Processing* Aug 585
Alexandrovsky, George B.: *Continuous Steelmaking* Sept 651
Alloyd Electronics Corp.: *Electron Beam Symposium in its Fifth Year* Sept 654
Altos Hornos de Mexico: *Iron and Steelmaking at Monclova* June 433
Aluminum Co. of America: *High-Strength Aluminum Alloys* Mar 216
American Brake Shoe Co.: *Cast Maraging Steel Evaluated* Dec 907
American Smelting & Refining Co.: *Impact of European Common Market on Nonferrous Metals* July 483
American Smelting & Refining Co.: *Lead Blast Furnaces Continuously Tapped* Nov 827
Antony, K. C.: *Aging Reactions in Precipitation Hardenable Stainless Steel* Dec 922
Armco Steel Corp.: *Steel for a Supersonic Transport* Mar 194
Arms, C. S.: *Iron Ore 1962* Feb 116
Ashbrook, R. L., et al: *Cobalt-Base Alloys for Space-Power Systems* Dec 922
Astier, Jacques: *Electric Ironmaking Furnaces* Sept 619
Atlas Steels Co. Ltd.: *Continuous Slab Casting Plant for Quebec* June 402
Austin, James B.: *Steel Metallurgist—His Heritage and Future* Aug 560

B

Bakish, R.: *Electron Beam Symposium in its Fifth Year* Sept 654
Banerjee, B. R., et al: *Scanning Electron-Probe Microanalysis in Metals Industry* Oct 769
Barrett, J. C.: *Powder Metallurgy in Aerospace Applications* May 349
Battelle Memorial Institute: *Mining and Metallurgical Education in the New World* Jan 37
Battelle Memorial Institute: *Recent Progress in Titanium* Feb 141
Battelle Memorial Institute: *Tests for Hot Workability* May 361
Battelle Memorial Institute: *Iron and Steel in Colonial Spanish America* June 412
Battelle Memorial Institute: *Incandescent Rolling Mill* Nov 840
Battelle Memorial Institute: *Diffusion Today* Nov 855
Beryllium Corp.: *Beryllium-Light-Metal Alloys* Sept 606
Bethlehem Steel Co.: *Improved Blast-Furnace Control* July 512
Bingle, W. D., et al: *Scanning Electron-Probe Microanalysis in Metals Industry* Oct 769
Blake, N. S., et al: *Scanning Electron-Probe Microanalysis in Metals Industry* Oct 769
Bodene, Donald: *Beryllium—Light-Metal Alloys* Sept 606
Böhler Bros. & Co. Ltd.: *Continuous Casting Steel Slabs* Nov 835
Boulger, F. W., and H. J. Henning: *Tests for Hot Workability* May 361
Bowman, Jan: *Gunning of Basic Refractories Improves Furnace Life* Aug 574
Breyer, N. N., and R. W. Gottschlich: *High-Speed Surface Removal for Bar, Rod, and Wire* May 364
British Iron and Steel Research Assn.: *Scrap Melting by the Fuel-Oxygen-Scrap Process* Nov 818
Broken Hill Proprietary Co. Ltd.: *Metallized Pellets from Ore-Coke Mixtures* Apr 294
Brown, E. E., and J. C. Cline: *Sampling of Steel Turnings and Borings* Dec 912
Bunshah, R. F.: *Fifth Vacuum Metallurgy Conference* Mar 210
Burr, M. F., and M. J. Donachie, Jr.: *Effects of Pressing on Metals Powders* Nov 849

C

Campbell, C. G.: *High-Carbon Steels from Pueblo's Basic Oxygen Plant* Aug 570
Carpenter Steel Co.: *Largest Vacuum Induction Furnace on Stream* Dec 878
Carreker, R. P., Jr.: *Dip-Forming—A Continuous Casting Process* Oct 774
Carroll, Walter: *Soviet Steel—1962* Jan 31
Carroll, Walter: *Steelmaking in the Ukraine* Jan 29
Case Institute of Technology: *Grain Refinement of Steels* May 372
Case Institute of Technology: *Thermomechanical Treatment of Steel* Oct 755
Cerro Corp.: *Steelmaking Heat Potentialities Point Toward Continuous Processing* Aug 585
Cerro Corp.: *Continuous Steelmaking* Sept 651
Chase Manhattan Bank: *European Common Market* July 481
Churchwood, E., and J. B. Rosenbaum: *Rhenium Recovery by Solvent Extraction and Electrodeposition* Sept 648
Clark, C. C.: *Superalloys for a Supersonic Transport* Mar 195
Clevite Corp.: *Powder Metallurgy in the Space Age* May 352
Cline, J. C., and E. E. Brown: *Sampling of Steel Turnings and Borings* Dec 912
Cochran, A. A., and V. R. Miller: *Radioisotopes as Aids to Metallography* Dec 914
Colorado Fuel & Iron Corp.: *High-Carbon Steels from Pueblo's Basic Oxygen Plant* Aug 570
Columbia University: *Henry Krumb School of Mines* Feb 147
Concast Ltd.: *New Semi-Horizontal Continuous Casting Unit* Aug 550
Corp. Venezolana de Guayana: *Tysland-Hole Furnaces* Sept 628
Crucible Steel Co. of America: *Solidification of Steel* Apr 311
Crucible Steel Co. of America: *Scanning Electron-Probe Microanalysis in Metals Industry* Oct 769
Cuthill, J. R., et al: *Metallurgical Microanalysis with the Electron Probe* Oct 763

D

Dabney, J. B., and H. R. Larson: *Cast Maraging Steel Evaluated* Dec 907
Danielsson, C., and S. Ivarsson: *Iron Ore Developments Surge in West Africa* May 377
Davies, Gail F.: *Powder Consolidation Processes* May 352
Death, F. S., and R. Houston: *Argon Degassing of Steel* Mar 205
Deutsch, George C.: *Materials for a Supersonic Transport* Mar 185
Dias, M. C., et al: *Solidification of Steel* Apr 311
Dickinson, C. D., et al: *Protective Coatings for Tungsten* Oct 787
Dietrich, Alfred: *Electrothermal Recovery of Zinc at Duisburger Kupferhuette* Nov 830
Dietz, J. R.: *Solid Fuel Injection at Weirton* July 499
Diran, L. M., and C. J. Novak: *Residual Elements in Maraging Steels* Mar 200
Donachie, M. J., Jr., and M. F. Burr: *Effects of Pressing on Metal Powders* Nov 849
Duisburger Kupferhuette: *Electrothermal Recovery of Zinc* Nov 830

E

Eding, W. J.: *Ultrahigh Strength Structural Materials* Feb 134
Electronics and Alloys Inc.: *Electron Beam Symposium in its Fifth Year* Sept 654
Erbin, E. F.: *Titanium for a Supersonic Transport* Mar 192

F

Fischer, Roland B.: *Incandescent Rolling Mill* ..... Nov 840
Fitterer, G. R.: *Acid Open Hearth Research* ..... July 511
Fitzgerald, E. J.: *Sponge Iron for the Electric Furnace* ..... June 437
Fitzgerald, E. J.: *Steel from Fundidora* ..... June 429
Fordham University: *Economic Outlook for Steel* ..... Apr 302
Freche, J. C., et al: *Cobalt-Base Alloys for Space-Power Systems* ..... Dec 928
Frost, P. D., et al: *Recent Progress in Titanium* ..... Feb 141
Fundidora de Fierro y Acero de Monterrey S.A.: *Steel from Fundidora* ..... June 429

G

Gee, K. H.: *Improved Blast-Furnace Control* ..... July 512
Gelles, S., et al: *Beryllium as a Structural Material* ..... Nov 843
General Dynamics Corp.: *Ultrahigh Strength Structural Materials* ..... Feb 134
General Electric Co.: *Case for Chromium* ..... Feb 127
General Electric Co.: *Superalloys for Aerospace Application* ..... Sept 645
General Electric Co.: *Dip-Forming—A Continuous Casting Process* ..... Oct 774
General Electric Co.: *Aging Reactions in Precipitation Hardenable Stainless Steel* ..... Dec 922
General Electric Co.: *Deoxidation Techniques for Vacuum-Induction Melting* ..... Dec 918
General Telephone & Electronics Inc.: *Protective Coatings for Tungsten* ..... Oct 787
Gibson, F. W.: *Cadmium Production in Mexico* ..... June 446
Giessen, Bill C., and N. J. Grant: *Around the World for 800 Days* ..... Jan 32
Gillson, Joseph L.: *Application of Technology for the Benefit of Less-Developed Countries* ..... July 495
Glasgow, J. A.: *Basic Oxygen Progress at Cleveland* ..... Aug 572
Gottschlich, R. W., and N. N. Breyer: *High-Speed Surface Removal for Bar, Rod, and Wire* ..... May 364
Grangesberg Co.: *Iron Ore Developments Surge in West Africa* ..... May 377
Grant, N. J., and Bill C. Giessen: *Around the World for 800 Days* ..... Jan 32
Great Lakes Steel Corp.: *Basic Oxygen Operations at Great Lakes* ..... Aug 563

H

Henkel, Siegfried: *Soviet Three-Bell Blast Furnace—A Success?* ..... Oct 733
Henning, H. J., and F. W. Boulger: *Tests for Hot Workability* ..... May 361
Herrera, Felipe: *Trend toward Latin American Economic Integration* ..... June 443
Hicks, Clifford J.: *Fracture in Crystalline Solids—Social Aspects* ..... Jan 43
Hoffman, Paul G.: *Minerals & Metals through International Cooperation* ..... July 492
Hogan, W. T., S.J.: *Economic Outlook for Steel* ..... Apr 302
Hojalata y Lamina S.A.: *Sponge Iron for the Electric Furnace* ..... June 437
Houston, R., and F. S. Death: *Argon Degassing of Steel* ..... Mar 205
Hultgren, Ralph: *California's Changing Metallurgy Curriculum* ..... Jan 20
Humble Oil & Refining Co.. *Great Engineering Implosion* ..... Jan 38
Hunsicker, H. Y., and J. A. Nock, Jr.: *High-Strength Aluminum Alloys* ..... Mar 216
IIT Research Institute: *Special Structures by Powder Metallurgy* ..... May 357
IIT Research Institute: *Vanadium Alloys in Aerospace* ..... Sept 642

I

Innes, J. A.: *Metallized Pellets from Ore-Coke Mixtures* ..... Apr 294
Inter-American Development Bank: *Latin American Economic Integration* ..... June 443
Interlake Iron Corp.: *Sampling of Steel Turnings and Borings* ..... Dec 912
International Nickel Co.: *Residual Elements in Maraging Steels* ..... Mar 200
International Nickel Co.: *Superalloys for a Supersonic Transport* ..... Mar 195
IRSID: *Electric Ironmaking Furnaces* ..... Sept 619
Ivarsson, S., and C. Danielsson: *Iron Ore Developments Surge in West Africa* ..... May 377

J

Jackson, J. H.: *Aluminum for a Supersonic Transport* ..... Mar 190
Jaffee, R. I., et al: *Recent Progress in Titanium* ..... Feb 141
Johnson, H. A.: *Nonferrous Metals in Aerospace* ..... Sept 635
Jones & Laughlin Steel Corp.: *Basic Oxygen Progress at Cleveland* ..... Aug 572
Jones & Laughlin Steel Corp.: *Oxygen Lances and the Thermochemistry of the Open Hearth* ..... Apr 304
Jones, D. J., et al: *LD and LDAC Operating Experience in Britain* ..... Aug 577

K

Kaiser Engineers: *LD Basic Oxygen Steelmaking—Its Growth and Development* ..... Aug 581
Kaiser Refractories: *Gunning of Basic Refractories* ..... Aug 574
Kimberly, R. L., and R. Tatousek: *Cupola-Oxygen Steelmaking at Acme Steel* ..... Aug 567
Klima, S. J., et al: *Cobalt-Base Alloys for Space-Power Systems* ..... Dec 928
Koppers Co.: *Strategic-Udy Installation in Venezuela* ..... Sept 630
Koros, P. J.: *Oxygen Lances and the Thermochemistry of the Open Hearth* ..... Apr 304
Kuhlmann, A. M.: *Second Most Abundant Element in the Earth's Crust* ..... July 502
Kula, Eric B., and S. Victor Radcliffe: *Thermomechanical Treatment of Steel* ..... Oct 755

L

Langenberg, F. C., et al: *Solidification of Steel* ..... Apr 311
Larsen, H. R., and J. B. Dabney: *Cast Maraging Steel Evaluated* ..... Dec 907
LaSalle Steel Co.: *High-Speed Surface Removal for Bar, Rod, and Wire* ..... May 364
Lawrence Radiation Laboratory: *Fifth Vacuum Metallurgy Conference* ..... Mar 210
Linde Co., div of Union Carbide Corp.: *Argon Degassing of Steel* Mar 205
Lockheed Missiles & Space Co.: *Magnesium and Beryllium Alloys* ..... Feb 136

Mc

McCauley, J. K., et al: *Solidification of Steel* ..... Apr 311
McDivitt, James F.: *World Bank and World Mineral Development* ..... July 486
McDonald, John C.: *Ultrahigh Strength Magnesium and Beryllium Alloys* ..... Feb 136
McKay, J. C., and J. A. Peart: *Blast Furnace Practice with Very Low Slag Volume* ..... Apr 288

M

Mantell, Charles L.: *Tin Smelting in Brazil* ..... Feb 152
Marshall, M. W.: *Steel for a Supersonic Transport* ..... Mar 194
Massachusetts Institute of Technology: *Around the World for 800 Days* ..... Jan 32
Massachusetts Institute of Technology: *A Conference on Metallurgical Education* ..... Jan 15
Maurice, Harvey, and Murray C. Udy: *Strategic-Udy Installation in Venezuela* ..... Sept 630
Melcher, Norwood B.: *Smelting Prereduced Iron Ore Pellets* ..... Apr 298
Metalurgica Mexicana Peñoles S.A.: *Cadmium Production in Mexico* ..... June 446
Miller, V. R., and A. A. Cochran: *Radioisotopes as Aids to Metallography* ..... Dec 914
Moore, W. F.: *Deoxidation Techniques for Vacuum-Induction Melting* ..... Dec 918
Morgan, R. B.: *Basic Oxygen Operations at Great Lakes* ..... Aug 563
Morral, F. R.: *Iron and Steel in Colonial Spanish America* ..... June 412
Morral, F. R.: *Mining and Metallurgical Education in the New World* ..... Jan 37
Morris, N., et al: *LD and LDAC Operating Experience in Britain* ..... Aug 577

N

National Aeronautics and Space Administration: *Materials for a Supersonic Transport* ..... Mar 185
National Aeronautics and Space Administration: *Liquid Metals for Aerospace Electric-Power Systems* ..... Sept 637
National Aeronautics and Space Administration: *Cobalt-Base Alloys for Space-Power Systems* ..... Dec 928
National Bureau of Standards: *Metallurgical Microanalysis with Electron Probe* ..... Oct 753
National Steel Corp.: *Basic Oxygen Operations at Great Lakes* ..... Aug 563
National Steel Corp.: *Solid Fuel Injection at Weirton* ..... July 499
Nerses, V., et al: *Beryllium as a Structural Material* ..... Nov 843
Newark College of Engineering: *Tin Smelting in Brazil* ..... Feb 152
New York University: *Senior Class* ..... Jan 45
Nicholas, M. G., et al: *Protective Coatings for Tungsten* ..... Oct 787
Nicholson, M. E.: *A Conference of Metallurgical Education* ..... Jan 15
Nock, J. A., Jr., and H. Y. Hunsicker: *High-Strength Aluminum Alloys* ..... Mar 216
Novak, C. J., and L. M. Diran: *Residual Elements in Maraging Steels* ..... Mar 200
Nuclear Metals, Inc.: *Beryllium as a Structural Material* ..... Nov 843

O

Osthagen, K. H., and F. R. Winslow: *Diffusion Today* ..... Nov 855
Oswald, R. C.: *Kaldo Operations in North America* ..... Apr 285
Otte, Henry M.: *International Conference on Crystal Lattice Defects* ..... Feb 157

P

Paranatis, A. L., et al: *Protective Coatings for Tungsten* ..... Oct 787
Parikh, N. M.: *Special Structures by Powder Metallurgy* ..... May 357
Parsons, A. E., et al: *LD and LDAC Operating Experience in Britain* ..... Aug 577
Pearson, John: *Scrap Melting by Fuel-Oxygen-Scrap Process* ..... Nov 818
Peart, J. A., and J. C. McKay: *Blast Furnace Practice with Very Low Slag Volume* ..... Apr 288
Pennsylvania State University: *World Bank and World Mineral Development* ..... July 486
Pickands Mather & Co.: *Iron Ore—1962* ..... Feb 116
Plöckinger, E., and B. Tarmann: *Continuous Casting Steel Slabs* Nov 835
Purdue University: *Education for Future Engineering* ..... Dec 935

R

Radcliffe, S. Victor, and Eric B. Kula: *Thermomechanical Treatment of Steel* ..... Oct 755
Rae, Arthur C.: *Continuous Slab Casting Plant for Quebec* ..... June 402
Ragland, Douglas: *Great Engineering Implosion* ..... Jan 38
Redelfs, R. G.: *A Program for Metallurgical Engineering Education* ..... Jan 22
Rensselaer Polytechnic Institute: *Effects of Pressing on Metal Powders* ..... Nov 849
Research Institute for Advanced Study: *Crystal Lattice Defects* ..... Feb 157
Reynolds Metals Co.: *Aluminum for a Supersonic Transport* ..... Mar 190
Richard Thomas & Baldwins Ltd.: *LD and LDAC Operating Experience in Britain* ..... Aug 577
Rolla Metallurgy Research Center: *Radioisotopes as Aids to Metallography* ..... Dec 914
Rosenbaum, J. B., and E. Churchwood: *Rhenium Recovery by Solvent Extraction and Electrodeposition* ..... Sept 648
Rosenblum, L.: *Liquid Metals for Aerospace Electric-Power Systems* ..... Sept 637
Roy, J. T., and J. R. Stone: *Lead Blast Furnaces Continuously Tapped* ..... Nov 827

S

St. Joseph Lead Co.: *Program for Metallurgical Engineering Education* ..... Jan 22
Schuhmann, R., Jr.: *Education for Future Engineering* ..... Dec 935
Shaler, Amos J.: *Thermal Treatment of Powders* ..... May 355
Sharon Steel Corp.: *Kaldo Operations in North America* ..... Apr 285
Sharp, J. D.: *Continuous Temperature Measurement of Molten Steel* ..... Dec 902
Siergiej, J., et al: *Beryllium as a Structural Material* ..... Nov 843
Simonds Saw and Steel Co.: *New Electric Melt Shop Features Materials Handling—Vacuum Casting* ..... May 368

Sims, Chester T.: *The Case for Chromium* ... Feb 127
Smart, J. S., Jr.: *Impact of the European Common Market on Nonferrous Metals* ... July 483
Smith, C. R.: *Electrodeposited Dispersion-Hardened Alloys* ... Oct 740
Starratt, F. Weston: *Steel for Mexico's Economic Development* ... June 421
Starratt, F. Weston: *Venezuela and Latin American Iron and Steel Congreso* ... Oct 781
Steel Co. of Canada Ltd.: *Blast Furnace Practice with Very Low Slag Volume* ... Apr 288
Steel Peech & Tozer: *Continuous Temperature Measurement of Molten Steel* ... Dec 902
Stone, Joseph K.: *LD Basic Oxygen Steelmaking—Its Growth and Development* ... Aug 581
Stone, J. R., and J. T. Roy: *Lead Blast Furnaces Continuously Tapped* ... Nov 827
Strategic Materials Corp.: *Strategic-Udy Installation in Venezuela* ... Sept 630
Stroh, A. N.: *Fracture in Crystalline Solids—Technical Aspects* ... Jan 43

T

Tarmann, B., and E. Plöckinger: *Continuous Casting Steel Slabs* Nov 835
Tatousek, R., and R. L. Kimberly: *Cupola-Oxygen Steelmaking at Acme Steel* ... Aug 567
Titanium Metals Corp. of America: *Titanium for a Supersonic Transport* ... Mar 192

U

Udy, Murray C., and Harvey Maurice: *Strategic-Udy Installation in Venezuela* ... Sept 630
Union Carbide Corp.: *Argon Degassing of Steel* ... Mar 205
Union Carbide Metals Co.: *Second Most Abundant Element in the Earth's Crust* ... July 502
United Nations Special Fund: *Minerals & Metals through International Cooperation* ... July 492
US Air Force: *Nonferrous Metals in Aerospace* ... Sept 635
US Army: *Thermomechanical Treatment of Steel* ... Oct 755
US Bureau of Mines: *Smelting Prereduced Iron Ore Pellets* ... Apr 298
US Bureau of Mines: *Rhenium Recovery by Solvent Extraction and Electrodeposition* ... Sept 648
US Bureau of Mines: *Radioisotopes as Aids to Metallography* ... Dec 914
US Dept. of Defense: *Powder Metallurgy in Aerospace Applications* ... May 349
U.S. Steel Corp.: *Steel Metallurgist—His Heritage and Future* ... Aug 560
United Steel Companies Ltd.: *Continuous Temperature Measurement of Molten Steel* ... Dec 902
University of California: *California's Changing Metallurgy Curriculum* ... Jan 20
University of Minnesota: *Conference on Metallurgical Education* ... Jan 15
University of Pittsburgh: *Acid Open-Hearth Research* ... July 511

V

Vallecitos Atomic Laboratory: *Aging Reactions in Precipitation Hardenable Stainless Steel* ... Dec 922
Van Thyne, R. J.: *Vanadium Alloys in Aerospace* ... Sept 642

W

Wallace, John F.: *Grain Refinement of Steels* ... May 372
Washington Steel Corp.: *Controlled Pressure Pouring at Washington Steel Corp.* ... Dec 900
Whitman, C. I., et al: *Protective Coatings for Tungsten* ... Oct 787
Wieder, Hardy: *Tysland-Hole Furnaces* ... Sept 628
Wile, G. J.: *Superalloys for Aerospace Application* ... Sept 601
Williams and Co., Clyde: *Electrodeposited Dispersion-Hardened Alloys* ... Oct 740
Wilson, John D.: *Structure and Operation of the European Common Market* ... July 481
Winslow, F. R., and K. H. Osthagen: *Diffusion Today* ... Nov 855
Wood, R. A., et al: *Recent Progress in Titanium* ... Feb 141
Wyman, L. L., et al: *Metallurgical Microanalysis with the Electron Probe* ... Oct 763

Y

Yakowitz, H., et al: *Metallurgical Microanalysis with the Electron Probe* ... Oct 763

Professional News

A

Acid Converter and Basic Oxygen Steel Committee:
Merged with National Open Hearth Steel Committee ... Feb 165
AIME:
Annual Meeting Program, 1963 ... Jan 65
Annual Meeting (1963) Summary ... June 450
Annual Meeting Plans, 1964 ... June 455
Awards Announced for 1963 ... Jan 49
Council of Education Nominees ... July 514
Thomas C. Frick, 1964 President-Elect ... July 514
Nominations for 1964 officers ... July 516
R. V. Pierce, 1963 President ... Feb 160
R. William Taylor Named General Secretary ... Dec 939
Weiss Discusses AIME Problems ... Dec 944
Applied Aspects of Refractory Metals:
Refractory Metals Conference Program, 1963 ... Oct 793
Armstrong, Ronald W.:
Winner, Hardy Gold Medal ... Jan 56
Austin, James B.:
Fellow, The Metallurgical Society ... Jan 50

B

Barrett, Charles S.:
IMD Director, 1963 ... Apr 322
Blast Furnace, Coke Oven, and Raw Materials Committee:
Name changed to Ironmaking Committee ... Feb 165
Blast Furnace Symposium:
Program ... May 343
Brooks, Harvey:
Institute of Metals Lecturer, 1963 ... June 451

C

Calhoun, John C. Jr.:
Director, AIME ... July 517
Canadian Institute of Mining and Metallurgy:
Conference of Metallurgists (summary) ... Nov 866
Chipman, John:
Fellow, The Metallurgical Society ... Jan 50
Clay, Gen. Lucius D.:
Recipient of John Fritz Medal ... Sept 657
Cohen, Morris:
Fellow, The Metallurgical Society ... Jan 50
Cole, Richard C.:
Addresses Western sections on engineers' professional growth ... July 520
President, The Metallurgical Society, 1963 ... Feb 161
Vice President, AIME ... July 516
Connecticut section, AIME:
Hears talk on rhenium technology and applications ... May 387

D

Darken, Lawrence S.:
Fellow, The Metallurgical Society ... Jan 50
Deformation Twinning Conf.:
Program ... Feb 102
Review ... July 519
Dix, Edgar H. Jr.:
Obituary ... Mar 232

E

Education:
(Not listed are articles appearing in the feature section)
Case Institute of Technology: plans investment casting seminar ... May 342
Connecticut, University of: plans metallurgy center ... Oct 741
Cornell University: new metallographic laboratory ... Nov 812
New metallurgy building ... Dec 947
Denver, University of: offers course in metallurgical phenomena ... May 342
Florida State University: new School of Engineering Science ... Nov 812
Harvard University: summer program on Principles of Solidification ... Mar 176
Illinois Institute of Technology: establishes five year curriculum for metallurgical engineers ... Sept 614
Lehigh University: materials science symposia for high school teachers ... Nov 862
Massachusetts Institute of Technology: plans center for advanced engineering study ... June 418
Michigan, University of: offers course on computers in metallurgical engineering ... June 418
Missouri School of Mines: Student Chapter wins Student Member Application Contest ... Mar 176
Northwestern University: opens $7-million addition to Technological Institute ... Dec 947
Pennsylvania State University: solid state research center established ... Mar 176
Pittsburgh, University of: has new metals laboratory ... Mar 176
Rensselaer Polytechnic Institute: revises program for engineering students ... June 455
Senior Class in Metallurgy ... Jan 45
Stanford University: Course on mineral industry computers ... May 342
Ehrhorn, Jack M.:
Director, AIME ... July 518
Electric Furnace Committee ... Dec 896
Electric Furnace Conf. 1962 Review Feb 197
Electric Furnace Conference, 1963:
Program ... Dec 892
Electric Furnace Executive Committee:
Report of the Chairman ... Dec 897
Electronic Materials Conference, 1963:
Program ... July 526
Summary ... Nov 864
Elliott, John F.:
Howe Memorial Lecturer, 1963 ... June 450
Emerick, Harold B.:
Director, AIME ... July 517
ISD Director ... Apr 322
Metallurgical Society President-Elect, 1964 ... July 514
Emerick, R. B.:
Student prize paper (summary) ... Nov 865
Engineering Management Conference, 1963:
Program ... Apr 276
Summary by student ... Aug 595
Summary by instructor ... Oct 798
Engineering Manpower Commission:
Study of decrease in freshman engineering enrollments ... Jan 49
Engineers Joint Council:
Carries our projects vital to engineers ... Apr 324
Directory of engineering societies ... Dec 941
Graduate fellowships study ... May 382
Information handling program ... Feb 164
Information systems report ... May 383
Releases report on engineers' salaries ... Apr 320
Report on engineering teacher salaries ... Aug 593
Student attrition in engineering colleges ... May 386
Study of decrease in freshman engineering enrollments ... Jan 49
Extractive Metallurgy Division:
C. L. McCabe, Chairman ... Feb 162
Know Your Society ... Sept 658
L. M. Pidgeon, 1963 lecturer ... June 451
P. T. Stroup named 1964 lecturer ... Sept 658

F

Feierabend, R. H.:
Director, AIME ... July 518
Fellows of The Metallurgical Society Jan 50
Photograph ... June 454
Fox, Edward G.:
Vice President, AIME ... July 516
Frick, Thomas C.:
1964 AIME President-Elect ... July 514

G

Gordon and Breach, Science Publishers:
Will Publish Metallurgical Society books ... Oct 797

H

Haibouty, Michel T:
Director, AIME ... July 517
Hardy Gold Medal ... Jan 56
Harris, William J. Jr.:
IMD Director, 1963 ... Apr 322
Vice President, AIME ... July 516
Henry, Otto H.:
Obituary ... Feb 168
Hibbard, Walter R. Jr.:
Fellow, The Metallurgical Society ... Jan 51
Howe Memorial Lecture:
John F. Elliott, 1963 Lecturer ... June 450
Lecturers for 1964, 1965 ... Aug 596

I

Institute of Metals Division:
R. L. Smith, Chairman ... Feb 162
Institute of Metals Lecturer, 1963:
Harvey Brooks ... June 451
Iron and Steel Division:
Committee Names Changed ... Feb 165
D. R. Loughrey, Chairman ... Feb 162
Know Your Society ... Aug 596
Ironmaking Committee: New name of former Blast Furnace, Coke Oven, and Raw Materials Committee ... Feb 165
Nominees announced ... Apr 320
Report ... Apr 255
Ironmaking Conference, 1963:
Program ... Apr 262
Summary ... July 506

J

John Fritz Medal:
Gen. Clay Named Recipient ... Sept 657

K

Kinzel, Augustus B.:
Fellow, The Metallurgical Society Jan 51
Kirkendall, E. O.:
Secretary, General Manager of UET Nov 861

L

Larsen, B. M.:
Howe Lecturer for 1965 ... Aug 596
Lawrence, Hiram P.:
Obituary ... Feb 168
Leach, Robert H.:
Obituary ... Mar 232
Lee, Albert E. Jr.:
EMD Director, 1963 ... Apr 323
Lehigh Valley Section, AIME:
All-Day Meeting ... Dec 941
Loughrey, D. R.:
Division Chairman, ISD ... Feb 162

Mc

McCabe, C. L.:
Division Chairman, EMD ... Feb 162

M

Marzke, O. T.:
IMD Director, 1963 ... Apr 322
Mathewson, Champion H.:
Portrait presented to Yale ... June 456
Mechanical Working Conf., 1964:
Program ... Dec 948
Meek, Frederick J.:
Appreciation ... Oct 804
Mehl, Robert F.:
Fellow, The Metallurgical Society Jan 51
Minnesota section, AIME:
Annual Meeting ... Apr 318

N

National Academy of Engineering:
Will be formed by National Academy of Sciences ... June 456
National Open Hearth and Basic Oxygen Steel Committee:
Chicago section, annual meeting May 385
Local Section Reports ... Apr 250
Nominations for 1964 Officers ... Nov 861
National Open Hearth and Basic Oxygen Steel Conference, 1963:
Program ... Apr 258
Summary ... July 506
National Open Hearth Steel Committee:
Name changed to National Open Hearth and Basic Oxygen Steel Committee ... Feb 165
National Science Foundation:
Summary on Manpower in Science, Technology ... Sept 658
New England Regional Conf.:
Summary ... Mar 226
Nielsen, John P.:
Senior Class in Metallurgy ... Jan 45

O

Olson, George C.:
ISD Director, 1963 ... Apr 322
Opie, William R.:
EMD Director, 1963 ... Apr 323

P

Pacific Northwest Metals and Minerals Conference:
Summary ... June 458
Pidgeon, L. M.:
Extractive Metallurgy Division Lecturer, 1963 ... June 451
Pierce, Roger V.:
President, AIME, 1963 ... Feb 160
Addresses SME Fall Meeting & Rocky Mountain Conference ... Dec 941
Pittsburgh Section:
Off-the-Record Meeting, 1962, summary ... Jan 6
Off-the-Record Meeting, 1963 ... Oct 797

R

Ragland, Douglas:
Vice President, AIME ... July 516
Refractory Metals Symposium, 1963:
Program ... Oct 793
Richardson, Frederick D.:
Fellow, The Metallurgical Society Jan 51
Howe Lecturer for 1964 ... Aug 596

S

Schlechten, A. W.:
Director, AIME ... July 517
Schuhmann, Reinhardt Jr.:
EMD Director, 1963 ... Apr 323
Fellow, The Metallurgical Society Jan 51
Senior Class in Metallurgy ... Jan 45
Sipler, Albert B.:
Student prize paper (summary) Nov 865
Smith, Cyril Stanley:
Fellow, The Metallurgical Society Jan 51
Smith, R. L.:
Division Chairman, IMD ... Feb 162
Stroup, P. T.:
EMD lecturer for 1964 ... Sept 658

T

Taylor, R. William:
Named General Secretary, AIME Dec 939
Teig, Marlowe:
Named Assistant Editor of Journal of Metals ... Sept 657
Tenenbaum, Michael:
Director, AIME ... July 517
The Metallurgical Society:
Richard C. Cole, 1963 President ... Feb 161
Deformation Twinning Conf. Program ... Feb 102
Directors ... Apr 322
Harold B. Emerick, 1964 President-Elect ... July 514
Fall Meeting Program, 1963 ... Sept 665
Fall Meeting Pictures, 1962 ... Feb 133
Fall Meeting Pictures, 1963 ... Dec 942
Fellows ... Jan 50
Western Metal Congress Sessions Mar 226
Wilcoxson Named Assistant Secretary ... Dec 940

U

Udd, J. C.:
Obituary ... Feb 168
United Engineering Trustees:
E. O. Kirkendall Named Secretary, General Manager ... Nov 861

W

Weiss, Norman L.:
Address on AIME Problems ... Dec 944
Vice President, AIME ... July 517
Western Metal Congress ... Mar 226
Wharton, L. P.:
Vice President, AIME ... July 516
Wilcoxson, Leslie S.:
Named Assistant Secretary, Metallurgical Society ... Dec 940
Wilder, Arthur B.:
ISD Director, 1963 ... Apr 322

New Books and Authors*

A

Aaronson, H. I., and Zackay, V. F., *eds.*: **Decomposition of Austenite by Diffusional Processes** ... Aug 544
Art and Science of Growing Crystals, The ... Nov 824

B

Bashforth, C. Reginald: **The Manufacture of Iron and Steel, vol. 4, The Mechanical Treatment of Steel** ... Feb 100
Brittle Fracture in Steel ... Dec 946

C

Chemistry of Rhenium, The ... Sept 617
Comparison of Steelmaking Processes ... July 468
Continuous Casting ... July 470

D

Dancy, T. E., and McBride, D. L.: *eds.*: **Continuous Casting** ... July 470
Decomposition of Austenite by Diffusional Processes ... Aug 544
Dialogo del Hierro (The Dialogue of Iron) ... Feb 100

E

Electric Furnace Steelmaking, vol. I ... May 334
Electric Furnace Steelmaking, vol. II ... June 414
Electron Microscopy and Strength of Crystals ... Oct 738

F

Fenn, Dana H. Jr., and Fernberger, Linda A., *eds.*: **Management of Materials Research** ... Jan 5
Fernberger, Linda A., and Fenn, Dana H. Jr.: *eds.*: **Management of Materials Research** ... Jan 5
Finniston, H. M., and Howe, J. P.: *eds.*: **Progress in Nuclear Energy** July 478

G

Gilman, J. J., *ed.*: **The Art and Science of Growing Crystals** ... Nov 824
Gonser, B. W., *ed.*: **Rhenium** ... Sept 617

H

Howe, J. P., and Finniston, H. M.: *eds.*: **Progress in Nuclear Energy** ... July 478
Hydrogen in Steel ... Oct 738

I

Iron and Its Dilute Solid Solutions Nov 824

L

Lebedev, K. B.: **The Chemistry of Rhenium** ... Sept 617
Lundin, C. E., and Nachman, J. F.: *eds.*: **Rare Earth Research** Apr 241

M

Management of Materials Research Jan 5
Manufacture of Iron and Steel, vol. 4, The Mechanical Treatment of Steel ... Feb 100
McBride, D. L., and Dancy, T. E.: *eds.*: **Continuous Casting** ... July 470
Mechanical Properties of Electrolytic Deposits, The ... Jan 5
Monardes, Nicolas Bautista; **The Dialogue of Iron** ... Feb 100

N

Nachman, J. F. and Lundin, C. E.: *eds.*: **Rare Earth Research** Apr 241

P

Petrova, Yu S., and Vagramyan, A. T.: **The Mechanical Properties of Electrolytic Deposits** ... Jan 5
Progress in Nuclear Energy ... July 478

R

Rare Earth Research ... Apr 241
Rhenium ... Sept 617

S

Sims, Clarance E.: *ed.*: **Electric Furnace Steelmaking, vol. I** ... May 335
Sims, Clarance E.: *ed.*: **Electric Furnace Steelmaking, vol. II** ... June 414
Smialowski, M.: **Hydrogen in Steel** Oct 738
Spencer, C. W., and Werner, F. E., *eds.*: **Iron and Its Dilute Solid Solutions** ... Nov 824
Strengthening Mechanisms in Solids Apr 241

T

Thomas, G. and Washburn, J., *eds.*: **Electron Microscopy and Strength of Crystals** ... Oct 738

U

Ultra-High-Purity Metals ... Mar 173
Uranium Metallurgy, vol I ... Aug 544
Uranium Metallurgy, vol II ... Apr 241

V

Vagramyan, A. T., and Petrova, Yu S.; **The Mechanical Properties of Electrolytic Deposits** ... Jan 5

W

Washburn, J. and Thomas, G., *eds.*: **Electron Microscopy and Strength of Crystals** ... Oct 738
Werner, F. E., and Spencer, C. W.; *eds.*: **Iron and Its Dilute Solid Solutions** ... Nov 824
Wilkinson, W. D.: **Uranium Metallurgy, vol. II** ... Apr 241
Uranium Metallurgy, vol. I Aug 544

Z

Zackay, V. F., and Aaronson, H. I., *eds.*: **Decomposition of Austenite by Diffusional Processes** ... Aug 544

* This is not a complete list of all books mentioned during the year. All books which were reviewed, and their authors, are listed.